

**What is claimed is:**

1. A sleeve valve comprising:
  - a valve body;
  - 5 a flow passage through the valve body, the passage having a longitudinal axis;
  - a slidable sleeve received in the flow passage and movable in an axial direction between an opened and a closed position;
  - a valve plug positioned within the flow passage and arranged to cooperate with the slidable sleeve to open or close the sleeve valve; and
  - 10 a first end portion of the valve plug having an upstream flow directing surface, the end portion being removably mounted to a part of the valve plug within the flow passage and being replaceable with at least a second end portion to change at least one performance or flow characteristic of the sleeve valve.
- 15 2. A valve according to claim 1, wherein a valve pressure recovery performance characteristic of the sleeve valve can be changed by interchanging at least the first end portion with the second end portion.
- 20 3. A valve according to claim 1, wherein the valve plug has a body section fixed in position within the flow passage, and wherein only the end portion is removable and replaceable relative to the body section.
4. A valve according to claim 3, wherein the first end portion and the second end portion are each selected from a plurality of interchangeable end portions.
- 25 5. A valve according to claim 4, wherein each of the plurality of interchangeable end portions has at least one different size or shape characteristic in comparison to the other of the plurality of interchangeable end portions.

6. A valve according to claim 4, wherein each of the plurality of interchangeable end portions has a different upstream surface contour in comparison to the other of the plurality of interchangeable end portions.

5 7. A valve according to claim 4, wherein at least two end portions of the plurality of interchangeable end portions have a flow redirecting flange, and wherein each of the at least two end portions has a different contoured flow redirecting flange in comparison to the other of the at least two end portions.

10 8. A valve according to claim 1, wherein the flow passage has a generally circular cylindrical cross section at least in a sleeve engaging region.

9. A valve according to claim 8, wherein the slidable sleeve has a circular cylindrical cross section and is received in the sleeve engaging section of the flow  
15 passage.

10. A valve according to claim 5, wherein the at least one valve performance or flow characteristic is a valve pressure recovery performance characteristic which is different for each of the plurality of end portions.

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11. A valve according to claim 1, wherein each of the first and second end portions is removably installed within the flow passage using a discrete threaded fastener.

25 12. A valve according to claim 1, wherein each of the first and second end portions includes a threaded stem extending from a downstream end of the corresponding end portion for removable and threaded installation onto a stationary valve plug body supported within the flow passage.

13. A method of adjusting at least one performance or flow characteristic of a sleeve valve wherein the valve has a valve body, a flow passage through the valve body, a valve plug in the flow passage, and a slidable sleeve movable along an axis of the flow passage between an opened and a closed position relative to the valve plug, the method comprising the steps of:

5 removing at least a first end portion from a part of the valve plug;  
selecting an alternative second end portion from a plurality of end portion options; and  
removably installing the second end portion on the part of the valve plug in the  
10 flow passage.

14. A method according to claim 13, and suitable for adjusting a valve pressure recovery performance characteristic of the valve.

15 15. A method according to claim 13, wherein the step of removing further comprises:

releasing the first end portion by removing at least one fastener that secures the first end portion in place.

20 16. A method according to claim 13, wherein the step of removing further comprises:

rotating the first end portion in order to release a threaded stem from the part of the valve plug, the stem extending from a downstream end of the first end portion.

25 17. A method according to claim 13, wherein the step of removably installing further comprises:

placing the second end portion adjacent the part of the valve plug; and  
reinstalling a threaded fastener to secure the second end portion in place.

18. A method according to claim 13, wherein the step of removably installing further comprises:

placing the second end portion adjacent the part of the valve plug; and

rotating the second end portion in order to insert a threaded stem into the part  
5 of the valve plug, the stem extending from a downstream end of the second end portion

19. A method according to claim 13, wherein the step of selecting further comprises:

10 selecting the second end portion from an array of end portions each having one or more different physical characteristics relative to the other end portions of the array.

20. An adjustable sleeve valve kit comprising:

15 a valve having a valve body, a flow passage through the valve body and defining a longitudinal axis, a slidable sleeve received in the flow passage and movable in an axial direction between an opened and a closed position, and a part of a valve plug fixedly positioned within the flow passage; and

20 a plurality of selectively interchangeable valve plug end portions each being removably attachable to the valve plug part so as to be arranged to cooperate with the slidable sleeve to open or close the sleeve valve, and each having an upstream flow directing surface.

21. An adjustable sleeve valve kit according to claim 20, wherein at least  
25 two or more end portions of the plurality of interchangeable end portions have one or more different flow directing surface features so that at least one performance or flow characteristic of the sleeve valve can be adjusted according to which of the two or more end portions is selected and installed in the valve body.